

# **Chinese University Students' Digital Engagement in Post-COVID: A Sociomaterial Approach**

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## **Abstract:**

Many scholars internationally conducted research on teaching and learning during the pandemic. Some scholars identified positive changes in student academic performance and student satisfaction while others found negative impacts on students' mental health. My observation is that Covid-19 and technology (non-human actors) have shaped students' cognition (way of thinking), behavior (digital practices), and affection (mental health). In fact, in China, digital engagement has become an important part of the lives of university students even in the post-Covid era. This qualitative study aims to investigate two Chinese universities with focus on their students' digital engagement from a sociomaterial perspective. This research focuses on three questions: 1) What are Chinese university students' perceptions and practices of their digital study (2022-2023)? 2) What dilemmas or conflicts did they confront when they configured a digitally mediated learning space that constitutes messy assemblages of material and social practices? 3) How did they respond to new challenges (human actors and nonhuman actors)? In order to answer these questions, the study adopts interviews and visual analysis of individual digital learning environment (including imaging and texts). It offers insights on reframing student digital engagement as constantly shifting sociomaterial assemblages from which different forms of agency emerge as effects of connections and activity. These assemblages can be closely read and interpreted from the students' dynamic study practices, which are not only social but also at times private and unobservable. The study will contribute to a more nuanced understanding of the human-material-digital practice and enactments for the Chinese academic community and beyond.

## **Keywords**

Sociomaterial approach, student engagement, digital engagement, visual method

## **Introduction**

The Covid-19 pandemic exerted unprecedented impacts on higher education institutions locally and globally. The blended teaching and learning mode were replaced by a complete online instruction mode due to policy changes in the second half of 2021 and in 2022 in China, causing disruption to the teaching and learning process. Since 2023, digital engagement has become an important part of the day-to-day lives of Chinese university students, for the blended teaching has started to become more widespread because of the national policy of digitalization of higher education (Wu 2023). Although technology is often linked to a discourse of empowerment, the existing global research results imply that the quality of student engagement in emergency remote learning is not necessarily satisfactory (e.g. Yin 2023) and that the features of student digital engagement beyond the Covid-19 pandemic remain unknown (Salas-Pilco et al. 2022).

Students entangle with the digital in complex ways, and arguably quantitative studies are not sufficient to explain Chinese university students' perceptions and practices of digital learning in 2022 and 2023. The relationships between national education policies, digital technologies, institutional policies regarding online instruction mode, the application of MOOCs, etc. and student digital engagement are not easily "measurable by surveys but best understood through in-depth qualitative work" (Kahu 2013, p. 764). Against this background, this research, employing a qualitative method and a sociomaterial approach, aims to investigate Chinese university students' perceptions and practices of digital engagement and their response to shifting dynamics during and beyond the pandemic, using small-scale case studies. Adopting a sociomaterial approach it will contribute to a more nuanced understanding of the complexity of student digital engagement (Wood 2022, Carlsson et al. 2023) for the Chinese academic community and beyond.

## **Sociomaterial Approach**

The study of the material aspects of education can be traced back to Dewey's inquiry-based learning model (1938). While many researchers do explore the material aspects of educational practice, they tend to highlight and reinforce human agency, placing materials in a subordinate or secondary position. However, Sørensen (2009) contends that our daily educational practice is "critically shaped through the material" and that the materiality of learning involves fluid gathering of human and non-human elements which act on each other, self-organize in

some patterns, interpenetrate with unpredictability. The recent years have witnessed the application of sociomaterial approaches to the material practices of education (Gourlay 2021). Scholarly works indicate how sociomaterializing processes construct subjectivities, generate knowledge, and create activities in webs of dynamic relations where human and nonhuman forces act upon each other, form assemblages, and produce transformations. In short, all things are full of agency and “emerge as effects of connections and activity” (Fenwick et al. 2011, p. 3).

Recent study on materiality in educational settings has gone beyond physical material entities such as lecture halls, desks and pens, to include intangible digital artefacts (Howard 2023). This is especially prominent as contemporary practices are reassembled through virtual learning programmes in response to fast technological advancement and the pandemic (Pischetola et al. 2021). Thus, extending the traditional concept of materiality to digital artefacts, such as software programs, online games, applications and websites (Morizio 2014) recognises the power of artefacts to reinforce ways of thinking (Leonardi 2013), and turn abstract ideas into material embodiment to realise certain human practices (Campbell et al. 2021). In summary, “as ‘artefacts and technologies set up a social field’, this calls for consideration not only of human-to-human interaction but highlights the salience of human-material-digital practice and enactments” (Ajjawi and Boud 2017, p. 252).

### **Research Purpose and Significance**

This study sets out to investigate the relations between social aspects and material aspects of Chinese higher educational settings, which give shape to what is being done and what can be done. It has important academic values for Chinese academia because few Chinese scholars in the educational research field view technologies as processes of becoming, changing, and varying through emergent patterns that have their own logic (Sørensen 2007). Nor do they see technologies acting with other forces to affect particular forms of participation in enactments (Fenwick 2011, 2015) in educational settings.

This study also has practical value. Its purpose is to provide a platform for Chinese university students to document and share the complexities of their digital learning experiences in their own terms. This research frames student digital engagement as constantly shifting sociomaterial assemblages from which different forms of agency emerge (Gourlay and Oliver 2018) and “agency is distributed across the elements of these networks in complex and shifting ways” (Gourlay and Oliver 2018, p. 159). Different forms of agency present themselves in terms of materiality, embodiment, space, and temporality, generating enactments in webs of dynamic connections.

### **Research Question**

Using case studies, the study aims to answer three questions:

1. How have Chinese university students at two universities engaged in digital learning from 2022 until the present?
2. What dilemmas conflicts or opportunities did they confront when they configured a digitally mediated learning space that constitutes messy assemblages of social and material practices?
3. How did they respond to new challenges?

### **Research Gap**

Three research gaps have been identified. First, a number of international scholars did research on university students’ digital engagement from a sociomaterial perspective, but very limited literature can be found in China. Only Xu in 2022 researched on Chinese doctoral students’ trajectory by using a sociomaterial perspective. Second, the existing Chinese literature uses quantitative rather than qualitative methods to investigate university students’ digital engagement. Also, they focused more on the impacts of online engagement rather than what this relationship produces. This research is among the first studies exploring Chinese university students’ digital engagement in COVID-19 and beyond from a sociomaterial lens. It contributes to the existing related literature by using not only interview but also visual methods for an in-depth analysis of human and nonhuman forces in co-shaping students’ educational experiences. In this case, it is important for this research to serve as a bridge to introduce a sociomaterial approach to international scholars and education policy makers so that they can have a nuanced understanding of student digital engagement.

### **Methodology**

This study will adopt qualitative methods (semi-structured interview and visual method), to study the digital engagement of students in Chinese universities. Potential participants will be asked to take 2-3 photos or draw a picture in order to demonstrate their online engagement. This method contributes to visualizing students’ experiences with non-human actors such as learning environment (smart learning and teaching platform), devices and technologies. After that, an in-depth semi-structured interview will be conducted to help elicit information

about participants' attitudes, beliefs, motivations and perceptions on a topic (Litosseliti ed. 2018). The interview questions consist of three aspects, namely, potential participants' experiences of their 2022 and 2023 online engagement; the dilemmas or conflicts they have encountered, their experiences of dealing with the dilemmas or conflicts; their different coping strategies.

This research attention to human-material-digital practice and enactments is the application of the sociomaterial approach.

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